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DURABILITY TESTS - O.U. 2 TREATABILITY STUDY WORK PLAN

01-08-92

OEPA/DOE-FO
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LETTER

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office
40 South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
FAX (513) 285-6249

[redacted]

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George V. Voinovich
Governor

January 8, 1992

RE: DURABILITY TESTS - O.U. 2 TREATABILITY STUDY WORK PLAN

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Mr. Jack R. Craig
Project Manager
U.S. DOE FEMP
P.O. Box 398705
Cincinnati, Ohio 45239

Dear Mr. Craig:

Ohio EPA has reviewed your letter dated December 31 addressing conditions raised in our conditional approval of the O.U. 2 Treatability Study Work Plan. The responses are acceptable for all conditions except comment #2 - durability. DOE's proposal to conduct the durability test on the waste form during the remedial design phase is unacceptable. It is not productive to conduct the durability test once the waste form/treatment option has been chosen. The durability test's main strength is it will allow us to compare the relative stability/resilience of the proposed waste forms prior to a decision on the final treatment option. Conducting the durability test during the design phase will only provide information on the waste form and will be of little use at that point. The entire remedial process for O.U. 2 could be at risk if the selected waste form fails durability tests during the design phase. Due to the fact that the wastes we are concerned with at Fernald will only be more of a problem in 1000 years (increased radium levels), the longevity of the waste form is paramount in our decision making. In addition, durability of the waste form should be an important factor in selecting the final disposal site(s).

We do not believe that using TCLP and the Unconfined Compressive Strength Test replaces the durability tests. TCLP does not simulate the physical deterioration, the same way a durability test does. TCLP is a test to look at leachate obtained, where the durability test looks at percentage of weight loss after a duration of wetting and drying or after a set duration of freezing and thawing. Within the durability test the water can be tested for leachate and particulate matter, but where TCLP uses acetic acid, durability testing uses water. The tests could produce some similar results, but the TCLP does not accurately simulate the same effects as a durability test.

The testing of the "dust" from the Unconfined Compressive Strength test would be similar to testing the final eroded product from the durability test. However, this is not the objective of the durability test. As stated above, a durability test is looking at the percentage of weight lost for each of the wet/dry or freeze/thaw cycles, and not just the eroded debris.

Ohio EPA believes that the durability test is necessary to effectively compare treatment options and select the most acceptable waste form as part of the RI/FS process. As we had discussed, Tom Schneider, Andrea Futrell and I will be available to discuss this issue with you next week in Chicago (January 15-16). If you have any questions please contact me.

Sincerely,

Graham E. Mitchell
Project Manager

GEM/bjb

cc: Tom Schneider, Ohio EPA
Andrea Futrell, Ohio EPA
Section Manager, DERR, T&PSS
Jim Saric, U.S. EPA
Lisa August, GeoTrans
Ed Schuessler, PRC
Robert Owen, ODH